UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,700	12/16/2003	Toshihiro Ise	Q79018	3450

23373 7590 01/20/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
GARRETT, DAWN L	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,700	ISE ET AL.	
	Examiner	Art Unit	
	Dawn Garrett	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

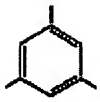
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

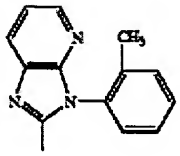
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12-16-2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to applicant's response to the election of species requirement received November 7, 2005. For the formula "E-I" election, applicant has selected the following linking group L



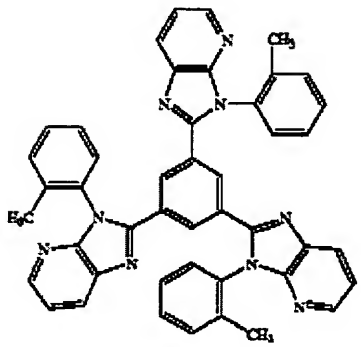
and the following group A



and m is 3.

The ultimate species selected is Compound E-23 shown on page 83 of the specification.

E-23



For the election of the "H-4" formula, applicant has selected the following:

Q^{H42}: imidazopyridine

Q^{H42}: benzene

X^{H41} : C

X^{H42}: C

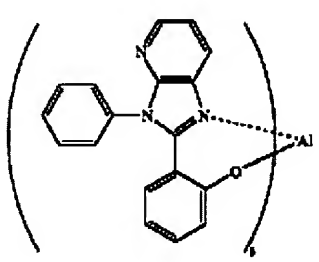
M^4: Al

L^H: not present

n^4: 3

m^4: 0

The ultimate species of formula H-4 is Compound 1 shown on page 42 of the specification.



Applicant indicates all claims (1-20) read upon the elected species.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

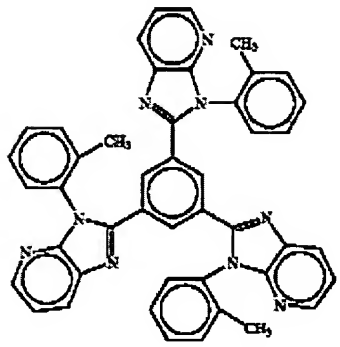
3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (JP 2001-247859; hereinafter '859) [note: U.S. Patent No. 6,821,645 is a patent family equivalent of JP 2001-247859] in view of Igarashi et al. (JP 2000-302754; hereinafter '754). Igarashi et al. '859 discloses light emitting devices comprising a light emitting layer with a phosphorescent iridium compound and a light emitting material (see examples and discussion of light emitting materials). '859 further discloses an electron transporting injecting layer

comprising Compound C, which is the same as the species E-I under consideration, an anode and a cathode. '859 fails to teach the specific light emitting metal complex under consideration as species "H-4", but does generally teach that any known light emitting materials in the art may be used in the light emitting layer. The secondary reference, Igarashi et al. '754, teaches compound (2-1) as a luminescent material (see abstract and page 14), which is the same as the species under consideration for formula H-4. It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the aluminum complex taught by '754 as the light emitting material in the '859 device, because '859 teaches that a light emitting material is used with the phosphorescent iridium material in the light emitting layer. The ratios of host compound to iridium compound taught by '859 are within the weight ranges of claims 10 and 11 (see Example 15, col. 53, lines 41-42). Since '754 teaches the same metal complex as applicant, the complex is deemed to have the glass transition properties of claim 12.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwong et al. (US 6,835,469) in view of Igarashi et al. (JP 2001-247859) and in view of Igarashi et al. (JP 2000-302754). Kwong et al. teaches EL devices with the required layers (see col. 25, lines 3-26). The light emitting is taught to comprise as a host organometallic compounds suitable in an emissive layer in an OLED (see col. 24, lines 14-17) and phosphorescent compound "Irppy" is taught as a dopant which can be added in an amount of 1-20% by weight of the host (see col. 24, lines 28-41). The electron transporting layer may be comprised of any suitable materials such as Alq (see col. 25, lines 31, 33). Kwong et al. fails to teach the specific light emitting metal complex under consideration as species "H-4", but does generally teach that any known light emitting materials in the art may be used in the light emitting layer. The secondary reference,

Igarashi et al. '754, teaches compound (2-1) as a luminescent material (see abstract and page 14), which is the same as the species under consideration for formula H-4. It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the aluminum complex taught by '754 as the light emitting material in the Kwong et al. device, because Kwong et al. teaches that a light emitting material is used with the phosphorescent iridium material in the light emitting layer. Since '754 teaches the same metal complex as applicant, the complex is deemed to have the glass transition properties of claim 12. Kwong et al. does not teach the specific E-I formula of the present claims as an electron transporting compound, but does teach Alq as an electron transporting compound as mentioned previously. The secondary reference Igarashi et al. '859 teaches in analogous art electron transporting compounds including Alq and the following compound according to the species under consideration:

(Compound C)



(See par. 105 and par. 118 "Compound C"). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected "Compound C" as an electron transporting material for electron transporting layer taught by Kwong et al., because Igarashi et al. '859 teaches Compound C and Alq as equivalent electron transporting materials.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dawn Garrett
Primary Examiner
Art Unit 1774

D.G.
January 13, 2006